

REMARKS

Applicants thank the Examiner for the very thorough consideration given the present application.

Claims 1-20 are now present in this application. Claims 1, 6, 10, 15, 18, 19 and 20 are independent.

Claims 1-20 have been amended. Reconsideration of this application, as amended, is respectfully requested.

Reasons for Entry of Amendments

At the outset, it is respectfully requested that this Amendment be entered into the Official File in view of the fact that the amendments to the claims automatically place the application in condition for allowance.

In the alternative, if the Examiner does not agree that this application is in condition for allowance, it is respectfully requested that this Amendment be entered for the purpose of appeal. This Amendment reduces the issues on appeal by amending the claims to distinguish Applicants' claimed invention over the prior art of record. This Amendment was not presented at an earlier date in view of the fact that Applicants did not fully appreciate the Examiner's position until the Final Office Action was reviewed.

Drawings

Applicants appreciate the Examiner's indication that the drawings filed on December 21, 1999 have been accepted.

Rejection Under 35 U.S.C. § 102/103

Claims 1-10, 14-17 and 19 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Saeki et al. (Saeki), and claims 11-13, 18 and 20 stand rejected under 35 U.S.C. § 103(a) over Saeki, in view of Moriyama et al. (Moriyama). These rejections are respectfully traversed.

Complete discussions of the Examiner's rejection are set forth in the Office Action, and are not being repeated here.

While not conceding the appropriateness of the Examiner's rejection, but merely to advance prosecution of the present Application, Applicant respectfully submits that independent claim 1 has been amended to recite a combination of steps in a method for creating and recording search information for recorded digital streams, including creating and recording index information for pointing to the start position of each stream object, which corresponds to the first stream object unit of each stream object.

Applicants respectfully submit that this combinations of elements is not disclosed or fairly suggested by the prior art of record, including Saeki and Moriyama.

The Applicants' claimed invention will now be explained, and in the process, distinctions between the Applicants' claimed invention and the Saeki patent will be highlighted.

Applicants' Claimed Invention

In the Applicants' claimed invention, the index number (INDEX_NO) of the first mapping entry (MAPU_ENT) of the mapping list (MAPL) or the first coarse mapping entry (C_MAP_ENT) associated with the stream object (SOB) is recorded in the stream time map general information (STMAP_GI). In FIG. 5, the index number K of the first mapping entry related to the stream object SOB #n is recorded as identification information for indexing the location of the stream object SOB #n.

If a user requests retrieval of a certain interval of a data stream recorded on the recording medium, for example recorded data corresponding to the time interval from 10 minutes to 20 minutes, the control unit 150 of the streamer 200 first searches Cells for a Cell (Cell 2 in FIG. 2) having a recording time corresponding to the start time 10

minutes. Then, the control unit 150 detects the index number pointing to the start position of the stream object SOB 2 corresponding to the chosen Cell 2 from the stream time map general information (STMAP_GI). The portion set forth above corresponds to the Applicants' specification, paragraph [31], and a portion of paragraph [32]. The remaining portion of paragraph [32] addresses a subsequent search for the start position of the stream object unit (SOBU) corresponding to the requested search time. However, the operation of finding the stream object unit (SOBU) corresponding to the requested search time should not be confused with the previous operation of pointing to the start position of each stream object.

It is here noted that paragraph [32] does not explicitly provide that the start position of each stream object (SOB) corresponds to the first stream object unit (SOBU) of each stream object. However, this should be understood. For example, paragraph [31] provides that the index number points to the start position of the stream object SOB. It is well understood that SOBs are comprised of SOBUs, and therefore the start position of an SOB will always correspond to the first stream object unit (SOBU) of itself. For example, a start position of an SOB#1 will correspond to an SOBU#1 (the first SOBU of SOB#1) and a start position of an SOB#15 will also correspond to an SOBU#1 (the first SOBU of

SOB#15). Besides this, the Applicants' disclosure already provides that the index number (INDEX_NO) in STMAP_GI indicates the first entry of the mapping list of a SOB, which corresponds to the start position of the first SOBU (see Applicants' specification, paragraph [31]). Further, as the Examiner has noted in paragraph (1) of the current Office Action, there are occurrences in Saeki, when the first part of a VOB has been deleted (does not exist). Therefore, claim 1, as amended, e.g., index information for pointing to the start position of each stream object, which corresponds to the first stream object unit of each stream object is supported by the Applicants' specification.

Saeki

The AV (audio visual files) of Saeki are arranged by VOB numbers, for example VOB#1, VOB#2, etc. (see Fig. 7). Also see Fig. 9, which is referenced by the Examiner (see page 4 of the Office Action). Particularly, the Examiner states that Saeki discloses that the index information is in the order of the time information of a time information entry related to each stream object. The Applicants disagree with the Examiner's statement. However, the Examiner's statement does suggest that index information and time information are not necessarily the same information. To this suggestion, the Applicants agree.

With regard to Saeki, two major questions are “what is the index information of Saeki?” and “does the index information point to a start position of each stream object, which corresponds to the first stream object unit of each stream object?”. A portion of Saeki referenced by the Examiner appears to provide an answer to these questions (see Saeki, Col.10, lines 1-6).

Particularly, Fig. 9 shows an example of how AV data (VOBs) corresponding to a title are identified, e.g., indexed. Clearly, the index information of this process does not point to the start position of each stream object, which corresponds to the first stream object unit of each stream object. In the process of the example shown in FIG. 9, a sequence of AV data corresponding to a title is identified following the course of: title search pointer 811 → PGC information 831 → cells 831a to 831c → VOB information 821, 822 → VOBs #1, #2. In this example, the AV data corresponding to a title is composed of two VOBs #1, #2. In other words, the index information of Saeki points to VOBs #1 and #2. However, the “index information” of Saeki, as described in the above referenced portion, does not point to a particular position of a VOBU within the identified VOBs.

Therefore, the “index information” of Saeki points only to a VOB#. Clearly, the index information of Saeki does not point to a start position of a VOB, which corresponds to the first VOBU of each VOB. Any subsequent data (in Saeki)

regarding locating a particular VOB is related to time, time searching, time offsets, etc.

Saeki provides in another portion that (as shown in FIG. 9), the first time table (time map table) is composed of time maps #1, #2, . . . which include: storage positions (sector addresses) of VOBs laid on a time axis whose start is a start time of the current VOB, the storage positions being arranged in order and corresponding to reproduction points that differ by a predetermined time unit (e.g., 60 seconds); and indicators for specifying the VOBs which respectively correspond to the storage positions (see Saeki, Col.9, lines 42-49).

The Applicants respectfully submit that this portion is directed only to the layout of the VOB, and only adds support to the Applicants' previous assertion that a start of position of a given SOB naturally corresponds to a first SOBU. No index information points to this position. Therefore, Saeki fails to teach a combination of steps in a method for creating and recording search information for recorded digital data streams, including creating and recording index information for pointing to the start position of each stream object, which corresponds to the first stream object unit of each stream object, as recited in independent claim 1, as amended.

Claims 6, 10, 15, 18, 19 and 20

Independent claims 6, 10, 15, 18, 19 and 20 have been amended in a manner similar to the amendment of independent claim 1. The amendments to these claims are set forth (in part) below:

Independent claim 6 has amended to recite a combination of steps in a method for creating and recording search information for digital data streams, including recording index information for pointing to the start position of each stream object, which corresponds to the first stream object unit of each stream object.

Independent claim 10 has been amended to recite a combination of steps in a method for searching digital data streams, including reading index information pointing to the start position of each stream object, which corresponds to a first stream object unit of each stream object.

Independent claim 15 has been amended to recite a combination of elements in an apparatus for creating and recording search information for recorded digital data streams, including control means for creating index information for pointing to the start position of each stream object, which corresponds to a first stream object unit of each stream object.

Independent claim 18 has been amended to recite a combination of elements in an apparatus for reproducing digital data streams,

including reading means to read the index information pointing to *the start position of each stream object, which corresponds to a first stream object unit of each stream object.*

Independent claim 19 has been amended to recite a combination of elements in an apparatus for creating and recording search information for digital data streams, including a controller to create index information for pointing to *the start position of each stream object, which corresponds to a first stream object unit of each stream object.*

Independent claim 20 has been amended to recite a combination of elements in an apparatus for reproducing digital data streams, including a controller to control said pickup to read index information pointing to *the start position of each stream object, which corresponds to a first stream object unit of each stream object.*

Applicants respectfully submit that the arguments set forth above with respect to the Saeki reference as it applies to claim 1, also apply to claims 6, 10, 15, 18, 19 and 20. Moriyama cannot supply the deficiency of Saeki. Reconsideration and withdrawal of these art grounds of rejection is respectfully requested.

With regard to dependent claims 2-5, 7-9, 11-14, 16 and 17, Applicants submit that claims 2-5, 7-9, 11-14, 16 and 17 depend, either directly or

indirectly, from independent claim 1, 6, 10 and 15, which are allowable for the reasons set forth above, and therefore claims 2-5, 7-9, 11-14, 16 and 17 are allowable based on their dependence from claims 1, 6, 10 and 15. Reconsideration and allowance thereof are respectfully requested.

Additional Cited Reference

Since the remaining reference cited by the Examiner has not been utilized to reject the claims, but have merely been cited to show the state of the art, no comment needs be made with respect thereto.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone

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Percy L. Square, Registration No. 51,084, at (703) 205-8034, in the Washington, D.C. area.

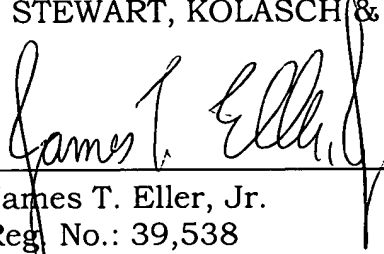
Prompt and favorable consideration of this Amendment is respectfully requested.


If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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